

PATENT COOPERATION TREATY

PCT/RU2003/000332



Translation

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/RU2003/000332	International filing date (<i>day/month/year</i>) 25 July 2003 (25.07.2003)	Priority date (<i>day/month/year</i>)
International Patent Classification (IPC) or national classification and IPC G01S 13/93		
Applicant BARANOV, Nikolai Alekseevich		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of _____ sheets.</p>	
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability: citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>	

Date of submission of the demand 24 February 2005 (24.02.2005)	Date of completion of this report 25 August 2005 (25.08.2005)
Name and mailing address of the IPEA/RU	Authorized officer
Facsimile No.	Telephone No.

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International application No.

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I. Basis of the report

1. With regard to the elements of the international application:*

- ☒ the international application as originally filed
- ☐ the description:
 pages _____ . as originally filed
 pages _____ . filed with the demand
 pages _____ . filed with the letter of _____
- ☐ the claims:
 pages _____ . as originally filed
 pages _____ . as amended (together with any statement under Article 19
 pages _____ . filed with the demand
 pages _____ . filed with the letter of _____
- ☐ the drawings:
 pages _____ . as originally filed
 pages _____ . filed with the demand
 pages _____ . filed with the letter of _____
- ☐ the sequence listing part of the description:
 pages _____ . as originally filed
 pages _____ . filed with the demand
 pages _____ . filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

- These elements were available or furnished to this Authority in the following language _____ which is:
- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-29	YES
	Claims		NO
Inventive step (IS)	Claims	1-29	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-29	YES
	Claims		NO

2. Citations and explanations

This report makes reference to the following documents cited in the search report:

- D1: US 5724040 A, 3 March 1998
- D2: DE 10039109 A1, 28 February 2002
- D3: US 4137764 A, 6 February 1979
- D4: RU 2088487 C1, 3 March 1998

D1-D4 disclose various systems and devices for warning that aircraft are entering hazardous wake vortices.

The prior art closest to the claimed method for warning that an aircraft is entering hazardous wake vortices is the disclosure in D1 of a method wherein the state of selected objects is monitored while receiving target data from at least one sensor, the position of the aircraft in space is monitored, and notification is provided when the aircraft is in danger of entering a wake vortex.

The method according to claim 1 differs from that known from D1 in that in the claimed method, information about the parameters and situation is received and

considered for the aircraft and for the vortex generator at the present moment in time, in relation to one and the same system of coordinates, and about the environmental parameters as part of the parameters of the co-location of the aircraft and of the wake vortex at the present moment in time, and in that limits are established with respect to the permissible variants for the relative positions of the aircraft and the vortex generator, taking into consideration the parameters of the movement of the aircraft and of the wake vortex being formed by the vortex generator, and information is provided to the user about the position of the aircraft in relation to the wake vortices and about the aircraft's approach towards these hazardous wake vortices.

D2 and D3 do not disclose the above-mentioned features. Said features make possible a method for warning that an aircraft is approaching a hazardous wake vortex, and they are not obvious to a person skilled in the art.

Consequently, the invention according to independent claim 1 and dependent claims 2-12 meets the requirements for novelty and inventive step.

The system disclosed in D1 contains a target supervisor, an aircraft location supervisor, a hazard monitoring and warning supervisor, and at least one sensor emitting a signal with regard to the target in said supervisors.

The system in claim 13 differs from that known from D1 in that it comprises a device for monitoring aircraft parameters, a device for monitoring a vortex generator and a vortex wake, a memory device, a detector of environmental parameters, a device for selecting and

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establishing the parameters of hazardous areas, a unit for monitoring the entrance of an aircraft into a hazardous area, a display device and an emergency tracking device.

D3 does not disclose the above-mentioned features. Said features make it possible to provide a device for warning that an aircraft is entering a hazardous wake vortex, and they are not obvious to a person skilled in the art. Therefore, the invention according to independent claim 12 and dependent claims 13-29 meets the requirements for novelty and inventive step.